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OPINION
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[IMAGE][IMAGE]

OPINION

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The EPA's Tainted Fracking Tests

The agency's groundwatercontamination finding is undermined by the U.S. Geological Survey.

By KEITH MAUCK

It has been four decades since Richard Nixon launched "Project Independence" with the goal of making the United States energy independent. All presidents since then have said they shared that goal, yet never has it been within reach as it is today—thanks to domestic natural gas and especially to the extraction method known as hydraulic fracturing. The International Energy Agency estimates that such technologies could allow the U.S. to supplant Saudi Arabia as the world's largest oil producer by 2020. But, as ever, government regulation may stand in the way.

Hydraulic fracturing, or "fracking," uses water and trace amounts of chemicals to create tiny fissures in deep-rock formations and coax energy-laden molecules to flow toward the surface. Fracking technology is driving America's oil and shale-gas boom, yet a White House executive order from April directs no fewer than 13 federal agencies to consider new regulations on fracking—even as it is already regulated by the states.

In recent years the federal Environmental Protection Agency has investigated fracking in three locations. In Texas and Pennsylvania, the EPA was unable to establish a link between fracking and groundwater contamination, the main ill effect that critics warn against. (Fracking contamination is the theme of "Promised Land," a movie starring Matt Damon that opened last week.)

But the agency claims to have found a smoking gun at its third test site, in Pavillion, Wyo. There, according to draft findings, EPA investigators found "compounds likely associated with gas production practices, including hydraulic fracturing" appearing at levels "below established health and safety standards."

The Pavillion study involves two water wells drilled by the agency in 2010 to test groundwater quality. Experts from the Wyoming Water Development Commission and elsewhere sharply criticized the EPA's results on several grounds, including that EPA investigators didn't follow their own guidelines on the

timeliness of the testing and the purity of the water samples. The federal Bureau of Land Management said that "much more robust" testing would be needed to properly draw conclusions.

So the EPA agreed to test the wells again, in April and May of last year 2012. In October, it claimed again to have found contaminated water. But this time there was a new wrinkle: The U.S. Geological Survey had conducted tests alongside the EPA, and its investigators reported different results. Unlike the EPA, the USGS failed to find any traces of glycols or 2-butoxyethanol, fracking-related chemicals that could cause serious health issues if they entered the water supply at levels the EPA considers contamination.

Meanwhile, the USGS found significantly lower concentrations of other materials identified by the EPA—including phenol, potassium and diesel-range organics—which might not have resulted from the fracking at all. The phenols were likely introduced accidentally in the laboratory, for example, and potassium might be naturally occurring or the result of potash contained in the cement used to build the EPA wells.

The USGS also noted that in constructing the monitoring wells, the EPA used a "black painted/coated carbon steel casing," and EPA photographs show that investigators used a painted device to catch sand from the wells. The problem is that paint can contain a variety of compounds that distort test results—so it is poor scientific practice to use painted or coated materials in well-monitoring tests.

After initially neglecting to disclose this information, the EPA eventually acknowledged it, but only while attempting to deflect criticism by releasing more test results and claiming that its data are "generally consistent" with the USGS findings. These actions only muddled the matter and postponed the peer-review process until after Jan. 15.

As the Tulsa-based energy and water-management firm ALL Consulting concluded: "Close review of the EPA draft report and associated documents reveals a number of concerns about the methodology, sampling results, and study findings and conclusions. These concerns stem from apparent errors in sampling and laboratory analysis, incomplete information that makes it difficult to assess the validity of the results, and EPA's failure to seriously consider alternative explanations for the results of its investigation. . . . Taken together, these concerns call into question the validity of EPA's analytical results and their conclusions regarding the sources of the reported contamination."

With no clear connection between fracking and groundwater contamination, it is premature and counterproductive to propose new federal regulations on the practice. Shoddy science should not form the basis of federal policy.

The fracking-facilitated development of shale gas and oil could create two million new jobs and billions in tax revenue over the next two decades, according to the research firm IHS Global Insight. Rather than look for reasons to stand in its way, the federal government should embrace hydraulic fracturing and take full advantage of its economic and security benefits.

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